

Short Communication

A New Record of *Gmelina tomentosa* Fletcher (Verbenaceae) from Myanmar

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Gmelina tomentosa (Verbenaceae) is newly reported from Myanmar. Until now, this species has been known only from the original description and collected only from Thailand. Based on the new materials, a full description and an illustration are presented here.

Key words: distribution, *Gmelina*, Myanmar, new record, Verbenaceae

Linnaeus (1753) established the genus *Gmelina* with a single species, *G. asiatica*. Approximately 40 species have since been referred to the genus, which occurs in the tropics and subtropics of Africa, Asia and Australia (Moldenke 1984a, Munir 1984, Mabberley 1997, Harley *et al.* 2004). Five species are currently known from Australia (Munir 1984). The bulk of the species have been revised by Moldenke (1984a, b, c, d, e, f, g) but no treatment of the Asian species has been attempted since then.

In the course of inventory research on a flora of Myanmar (Tanaka 2005), several fertile specimens of *Gmelina* were collected in dry deciduous forest at the foot of Mt. Popa, Popa Mountain Park (20°54'N, 95°15'E), central Myanmar. The collections were initially reported as "*G. sp.*" in a recent account of the flowering plants of the region (Tanaka *et al.* 2006). However, following careful examination of the collections and their comparison with authentic materials of the genus *Gmelina* at K and KYO, it is concluded that they coincide with *G. tomentosa*. Though considered to be closely related to *G. elliptica*, *G. tomentosa* is easily distinguished by its

densely tomentose branchlets, the retuse or obtuse apex of young leaves, the 4-toothed calyx and the larger corolla with soft white hairs.

Gmelina tomentosa was described by Fletcher (1938) based on a specimen collected from Thailand. Moldenke (1984b) knew of the species only by Fletcher's protologue at the time of his revision. A description of the species' fruit is still wanting. Recent checklist of Myanmar plants (Kress *et al.* 2003) also failed to cite this species, although it may be considered that *G. tomentosa* has not been recognized as a distinct species. Therefore this is a first record of *G. tomentosa* from Myanmar.

A full description, including that of the fruit, and an illustration (Fig.1) of this poorly known species are provided here. Voucher specimens have been deposited at the Environmental Education Center of Popa Mountain Park, with duplicates being sent to the Makino Botanical Garden (MBK), the Botanical Gardens of the University of Tokyo (TI), and the Kyoto University Museum Herbarium (KYO).

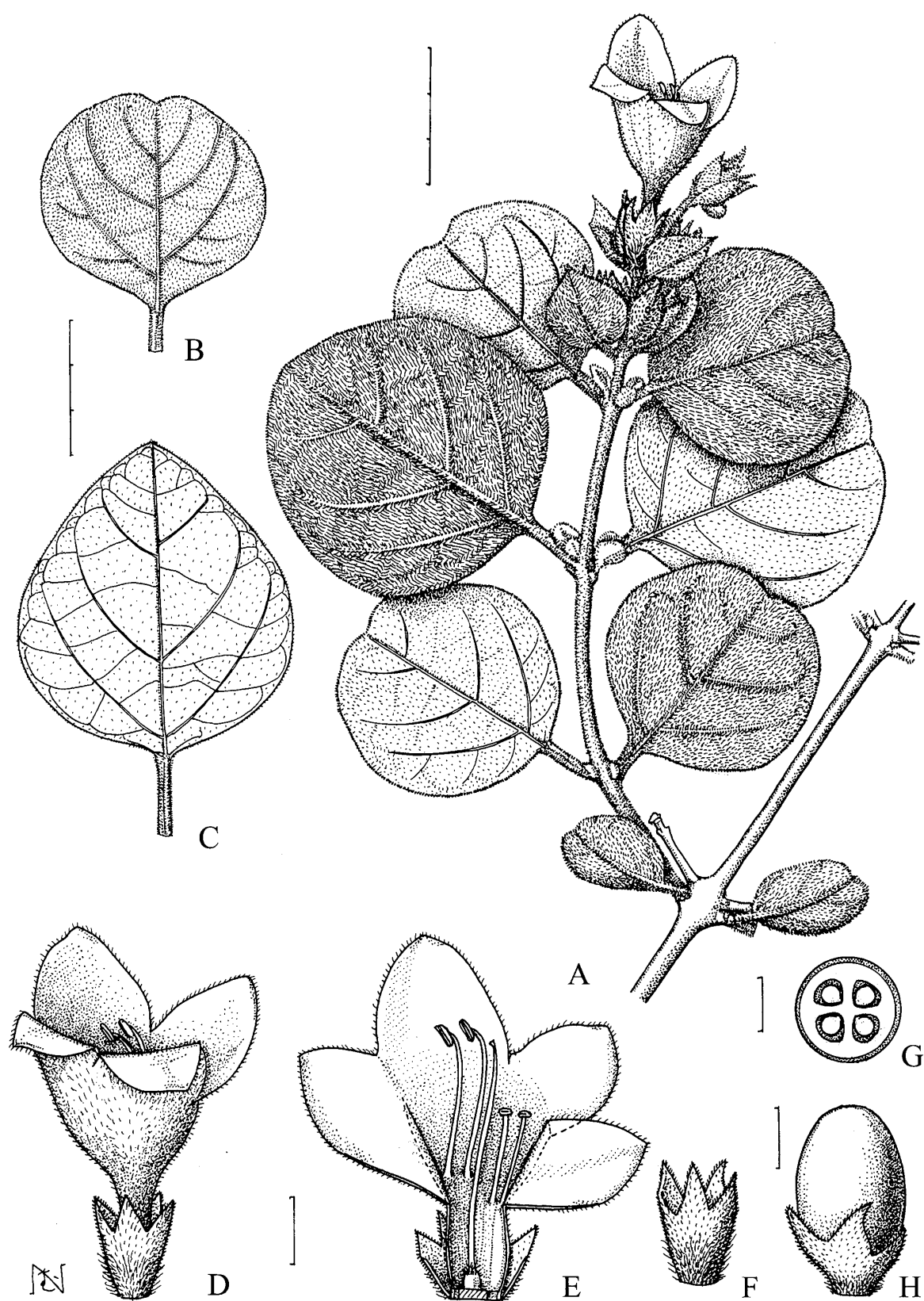


FIG. 1. *Gmelina tomentosa* Fletcher (A - G, drawn from *Khin Myo Htwe 032522*, MBK). A: Habit drawing of a branch. B: Young leaf. C: Mature leaf. D: Flower. E: Vertically opened flower showing androecium and gynoecium. F: Calyx. G: Transverse section of fruit. H: Fruit with persistent calyx. Scale bars = 3 cm (A - C), 1 cm (D - H).

Gmelina tomentosa Fletcher in Kew Bull. 1938: 204 (1938); Moldenke in Phytologia Mem. 2: 286 & 549 (1980); Moldenke in Phytologia 56(3): 181 (1984); 'G. sp.', Nob. Tanaka & Nagam. in Makinoa N. S. 5: 75 (2006). - Type: Thailand, Rachasima, Korat, Ban Chum Seng, *Noe 211* (K).

A shrub or small tree with short spines, ca. 3 m tall.

Branches grayish; blanchlets conspicuously tomentose when young, becoming glabrous, armed with short spines on lower stem, 0.5 - 0.7 cm long.

Leaves decussate-opposite; petioles 1 - 3.5 cm long, densely tomentose; leaf blade ovate, orbicular or depressed ovate when young, ovate to deltoid when mature, 3 - 8 cm long, 3 - 7.5 cm wide, rounded or broadly obtuse, often retuse at apex, marginally entire, basally subcuneate, truncate or rounded, fulvous-appressed tomentose on upper surface, fulvous-tomentose, especially on ribs, and glanduliferous on lower surface, the glands round or quadrangular, white, and sessile; midrib conspicuous on upper surface, prominent on lower surface, secondary veins 3 to 4. **Inflorescences** terminal, racemiform, 5 - 7 cm long, bracts leafy, ovate to lanceolate, acuminate at apex, olive-coloured, densely tomentose, 1.2 - 2 cm long, 0.6 - 1 cm wide; pedicels very short, 1 - 1.5 mm long; bracteole 4 - 5 mm long, 1 - 1.5 mm wide. **Calyx** 1.2 - 1.5 cm long, ca. 0.8 mm wide, campanulate, conspicuously 4-toothed, teeth 0.5 - 0.7 cm long, tube 0.8 - 1.0 cm long, densely tomentose outside, glabrous inside. **Corolla** 4 - 4.5 cm long, 3 - 3.5 cm wide, white, membranous, bilabiate, externally softly pubescent, glabrous inside, upper lip entire, 12 - 15 mm long, 10 - 15 mm wide, lower lip 3-lobed, the center lobe largest, broadly ovate-oblong, 10 - 20 mm long, 10 - 12 mm wide, the laterals semiorbicular, 5 - 10 mm long, 7 - 10 mm wide; tube slender below for up to about half of its length, then abruptly dilating upward, 2.5 - 3 cm long. **Stamens** didynamous, mostly included, inserted about the middle of the corolla-tube near the top of lower slender part; filaments fil-

iform, with scattered short glandular hairs, longer pair 2.0 - 2.3 cm long, shorter pair 0.9 - 1.0 cm long; anthers oblong, larger ones with longer pair 3 - 4 mm long, smaller ones with shorter pair 1 - 2 mm long. Pistil: ovary ovoid-globose, glabrous, 2 - 3 mm long, ca. 2 mm diameter, 4-locular, with one ovule in each locule; style 3 - 3.5 cm long, slightly exerted, filiform, with sparsely glandular hairs throughout, and with basally white long hairs, stigma unequally 2-lobed at apex. **Drupe**s with 4-celled, ovoid to ellipsoid, 2 - 3 cm long, 1.2 - 2.0 cm in diameter, glabrous, yellowish when mature.

Distribution: Thailand and Myanmar (Mt. Popa).

Vernacular name (Myanmar): Mye Htin Yu.

Specimens examined: MYANMAR: Mandalay Division: along the Circular Forest Road, Popa Mountain Park, 17 June 2000, *Khin Myo Htwe 020391* (MBK, TI); near the Environmental Education Center, Popa Mountain Park, 20 June 2000, *Tanaka et al. 020466* (MBK, TI); along the Circular Forest Road to Popa Mountain Resort, 11 Aug. 2000, *Than Than Aye & Khin Myo Htwe 020571* (MBK, TI); near the Environmental Education Center, Popa Mountain Park, 30 Aug. 2002, *Khin Myo Htwe 024067* (MBK, TI); near the entrance gate of Popa Mountain Park, 10 June 2004, *Khin Myo Htwe 032522* (KYO, MBK, TI).

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